



World Health
Organization

COUNTRY OFFICE FOR India

Depression in India Let's talk

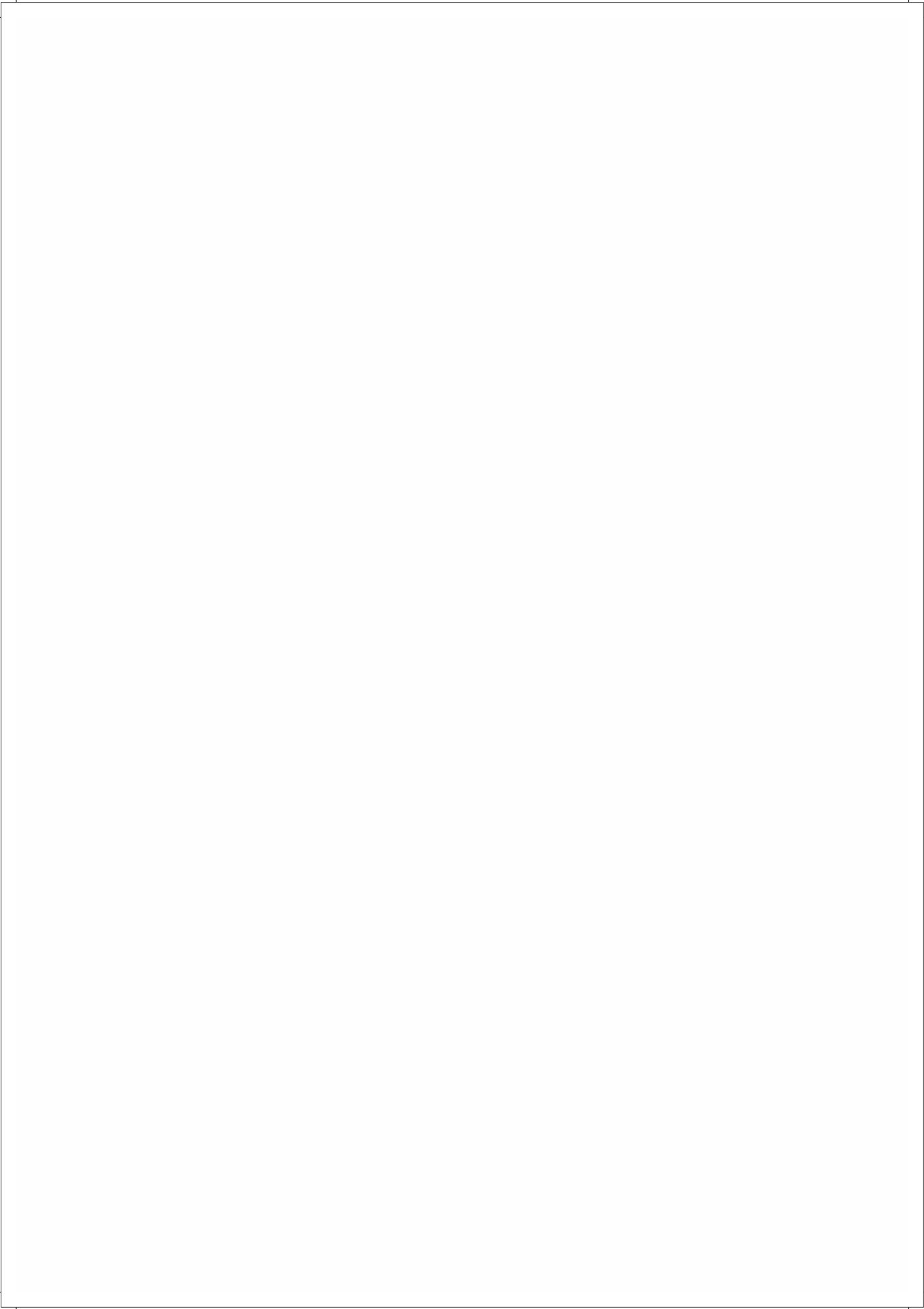
Depression

Let's talk



#Depression

#letstalk





Depression in

India

Let's talk

© World Health Organization 2017

All rights reserved. The World Health Organization Country Office for India welcomes requests for permission to reproduce or translate its publications, in part or in full. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

Contents

Acknowledgements	i
Abbreviations	ii
Why is it important to address depression?	iii
Depression	1
Depression has varied presentations	3
Burden of depression is high in low- and middle-income countries	4
The burden of depression in India is high	5
Depression in primary health care settings	5
Mortality associated with depression	5
Depression can affect anyone	7
Postpartum depression	7
Depression among children and adolescents	7
Depression in adults	7
Depression among the elderly	8
Age, gender and urban-rural differentials	9
Depression has multiple risk factors	10
Biological factors	10
Psychological factors	10
Social factors	10
Cultural factors	11
Economic factors	11
Poverty and mental health	12
Depression is a cause and consequence of many health conditions	13
Chronic communicable diseases	13
Mental health comorbidity	13
Chronic noncommunicable diseases	13
Depression impacts all walks of life	15
Disability	15
Social impact	15
Economic impact	15

Most persons with depression remain without care	17
Depression is a highly stigmatizing condition	18
Early recognition of depression is beneficial	19
Box 1: Criteria and symptoms of depression	20
Box 2: A 2-item screener for early detection of depression in primary care settings	20
Barriers and challenges	22
Depression can be effectively managed	23
Combinations of care work best	23
Developing strategies for care are vital	24
Need for task-shifting and sharing	24
Integration of mental health care into primary care systems is the key	24
Skilled health and para professionals are crucial in care	24
Referral pathways are highly required	25
Ensuring continuity of care and support	25
Depression management in institutional settings	25
Integrating depression with national health programmes is vital	25
Intervention for depression in health related sectors	26
Integration in health and related policies	28
Strengthening NMHP and DMHP	29
Depression—Let’s talk and act	30
Annexures	31
Annex 1: Burden of depression in India – findings from National Mental Health Survey 2015–16	31
Annex 2: Mental Health Action Plan 2013–2020	32
Annex 3: Sustainable Development Goals and mental health	32
References	33

Acknowledgements

We acknowledge the contributions of the team from National Institute of Mental Health and Neurosciences, Bangalore, comprising of Dr G. Gururaj, Dr Senthil Amudhan R., Dr Santosh Loganathan and Dr Arvind B.A., under the leadership of Dr B.N. Gangadhar for their commitment and efforts for compiling this document.

We would also like to acknowledge Dr Abdul Wahid Khan, Dr Abhijit Nadkarni, Dr Ajay Chauhan, Dr Aman Sood, Dr Amita Kashyap, Dr Balwant Singh, Dr B.S. Chavan, Dr B.S. Sidhu, Dr C Ramasubramanian, Dr Eesha Sharma, Dr G.A. Wani, Dr Kangkan Pathak, Dr Lokesh Kumar Singh, Dr Manoj Kumar, Dr Naresh T Chauhan, Dr Puja Garg, Dr R.K. Lenin Singh, Dr Rachana, Dr Rachana Mittal, Dr Rajarshi Neogi, Dr Rajesh Mittal, Dr Rajni Chatterji, Dr Rana Ranbir Singh, Dr Ritambhara Mehta, Dr Sandeep Bhola, Dr Santosh Prabhu, Dr Satish Chandra Girimaji, Dr Shibukumar, Dr Soneya Mishra, Dr Sujit Kumar Kar, Dr Sunil Kumar, Dr Sunil Pandey, Dr Sushil Kherada, Dr Vivek Agarwal, Dr Vivek Goyal and all experts for their valuable inputs.

Abbreviations

AIDS	acquired immune deficiency syndrome
ASHA	accredited social health activist
CBT	cognitive behaviour therapy
CMD	common mental disorder
DALY	disability-adjusted life year
DMHP	District Mental Health Programme
GBD	Global Burden of Disease
GP	general practitioner
HIV	human immunodeficiency virus
IPV	intimate partner violence
LMICs	low-and middle-income countries
NCD	noncommunicable disease
NGO	nongovernmental organization
NIMHANS	National Institute of Mental Health and Neurosciences
NMHP	National Mental Health Programme
NMHS	National Mental Health Survey
SDG	Sustainable Development Goal
WHO	World Health Organization
YLDs	Years Lived with Disability

Why is it important to address depression?

- Depression is a major public health problem in India, contributing to significant morbidity, disability as well as mortality, along with significant socioeconomic losses.
- Depressive disorders affect large numbers of children, adolescents, middle-aged groups and the elderly, both men and women, residing in urban and rural areas and slums of India.
- Causes of depression are several, including biological, social, economic and cultural factors, which are triggered by environmental factors.
- Depression is both a cause and consequence of several noncommunicable diseases, substance use disorders and nutritional disorders. It is also adversely associated with chronic communicable diseases like TB, HIV and others.
- Depression and suicide are closely interlinked. At its worst, depression can lead to suicide. Recognizing depression at an early stage is critical for reducing suicidal deaths and deliberate self-harm across the spectrum.
- People with depression are often stigmatized and excluded by family and society. They also tend to under-perform in education and work, thereby remain increasingly deprived of economic and social opportunities, with a decreased quality of life.
- The economic impact of depression is huge and unmeasured and vitiates the cycle of poverty and poor health. Low- and middle-income households are affected the most.
- People with depression do not get adequate care due to various reasons, ranging from non-availability of services to prevailing stigma and discrimination.
- Several evidence-based and cost-effective pharmacological and non-pharmacological interventions are available for managing depression. These can be delivered in different settings by different groups of health and non-health professionals and related service providers.
- Strengthening of the health system through appropriate staff training, uninterrupted supply of drugs, availability of psychotherapy, counselling services, good referral systems and continuity of care is essential. Stigma reduction programmes are critical to overcome barriers of recognition and care.

Depression

“Depression–Let’s talk” is the slogan for World Health Day 2017. Depression is an extremely common illness affecting people of all ages, genders, different socioeconomic groups and religions in India and all over the world. Globally, an estimated 322 million people were affected by depression in 2015.¹ Depression contributes to significant disease burden at national and global levels. At the individual and family level, depression leads to poor quality of life, causing huge social and economic impact.

Depression is one of the two diagnostic categories that constitute common mental disorders (CMDs), the other being anxiety disorder. Both are highly prevalent across the population (hence they are considered “common”) and impact on the mood or feelings of affected persons.¹ Depression includes a spectrum of conditions with episodes, illnesses and disorders that are often disabling in nature, vary in their severity (from mild to severe) and duration (from months to years) and often exhibit a chronic course that has a relapsing and recurring trajectory over time.

It is well acknowledged that depression influences the occurrence and outcomes of several diseases and conditions. Depression and suicide are closely interlinked; at its worst, depression can lead to suicide. Globally, depression is the top cause of illness and disability among young and middle-aged populations, while suicide ranks second among causes of death for the same age groups.² Depression is both a cause and consequence of several noncommunicable diseases (NCDs) such as cancer, ischemic heart disease and diabetes, substance use disorders (alcohol and drugs) and nutritional disorders (under-nutrition, over-nutrition and obesity). It is also adversely associated with chronic communicable diseases like TB, HIV and others.

Depression is associated with poverty in a vicious cycle. Depression often results in impaired functioning, which has an impact on all aspects of an individual’s life and family affecting multiple areas of education, marriage, work and social life. These in turn lead to loss of productivity, increased health care costs and significant emotional suffering. People with depression are also unable to access quality health care due to increasing costs.

India is home to an estimated 57 million people (18% of the global estimate) affected by depression.¹ With India witnessing significant changes (including globalization, urbanization, migration, and modernization) that is coupled with rapid socio-demographic transition, depression is likely to increase in the coming years.

Depression is largely preventable and treatable. Several cost-effective interventions have shown favourable recovery and positive outcomes in the care and management of depression. However, the stigma and treatment gap associated with depression in India is huge. Opportunities exist for prevention, care and management of those with depression in the National Mental Health Programme (NMHP), as well as in other health programmes and developmental efforts. The main challenge is translating scientific knowledge and understanding into action. Against this background, this report examines the burden, characteristics and impact of depression in the Indian context.

The present review on burden, risk factors, impact and public health interventions for depression is based on data drawn from different sources and used a review matrix for data compilation. Data from the Global Burden of Disease 2015 and the latest set of Global Health Estimates from WHO for 2015 were used for global and regional estimates of prevalence, incidence and health loss.^{3,4} The most recent data from the National Mental Health Survey (NMHS) 2015-16 by the National Institute of Mental Health and Neurosciences (NIMHANS), India was analysed for prevalence, differentials, treatment gap, disability and impact.⁵

Depression has varied presentations

Depression can be mild, moderate or severe, based on symptomatology. Diagnosis is most often based on the art of listening or observation by others, as objective assessments are still unavailable. While severe forms are easy to detect, mild and moderate forms, especially as comorbid conditions, can often go undetected.

Depending on the severity of illness, sociocultural context and age, depression often manifests in different ways, with varied presentations:

- Children with depression often present with symptoms of sadness, irritability, tantrums, physical complaints (headache, stomach ache), tearfulness, feeling bored, separation anxiety as well as poor academic performance and disturbed family relations.
- Among adults, it is usually accompanied by a marked difficulty or change in the functioning level or even with suicidal thoughts and behaviour.
- Depression in late life often presents with prominent psychomotor agitation or irritability rather than depressed mood as seen in younger adults. Individuals may frequently report with somatic complaints, poor appetite and at times with psychotic features.

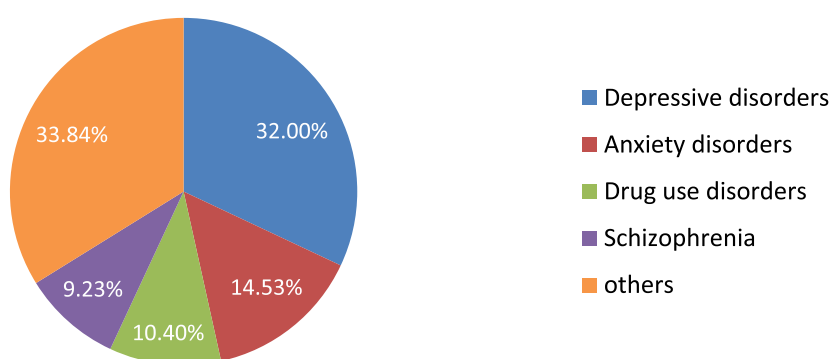
Thus, due to varied presentation, the recognition of depression by family members or close associates at an early stage, especially mild to moderate depression, is often challenging.

Burden of depression is high in low- and middle-income countries

Depression is one of the leading causes of disease burden globally and in low- and middle-income countries (LMICs). Globally, depression is ranked as the single largest contributor to non-fatal health loss, accounting for 7.5% of global years lived with disability (YLDs) and 2.0% of global disability adjusted life years (DALYs) in 2015.¹ According to Global Health Estimates 2015, depressive disorders accounted for nearly one third of the total DALYs caused by mental and substance use disorder (Fig. 1).⁴ It is projected to be the second leading cause of disease burden globally and third leading cause of disease burden in LMICs by 2030.⁶

Globally, the proportion of the population with depression is estimated to be 4.4%. It is more common among females (5.1% vs 3.6%) with a peak in the 55–74 year age-group in both sexes. Among the WHO Regions, the prevalence varies from as low as 2.6% among males in the Western Pacific Region to 5.9% among females in the African Region.¹

Fig. 1: DALYs due to mental and substance abuse



Source: Global Health Estimates 2015 (http://www.who.int/healthinfo/global_burden_disease/en/)

In LMICs, more than 80% of YLDs (non-fatal disease burden) were attributed to depression.⁴ Between 2005 and 2015, the number of people living with depression worldwide increased by an estimated 18.4%.⁷ The health loss due to depression also reflected the same with an increase in YLDs by 18.2% during 2005 and 2015.³ Several factors like high lifetime prevalence (6.5%–21%), increasing disability associated with depression,^{8,9} population growth and ageing, growing recognition across life span, association with chronic diseases, suicides as well as sociocultural and economic changes contributed to this rising burden.¹⁰

The burden of depression in India is high

India accounts for nearly 18% of the world population. It accounted for 15% of global DALYs attributable to mental, neurological and substance use disorders (31 million DALYs) with depression, accounting for 37% (11.5 million DALYs) in 2013.¹¹ The burden of depression, in terms of DALYs, increased by 67% between 1990 and 2013. By 2025, DALYs attributable to depression are projected to rise by roughly 2.6 million (22.5%) due to population growth and ageing.¹¹

The problem is estimated to be much higher as per several population-based studies, with the prevalence of depression ranging from 1.8% to 39.6%. Lack of uniformity across studies, with differences in nature of population, sample size, study instruments, assessment procedures and interpretation of findings, contribute to most of the variations.^{12–17}

As per NMHS (2015-16) in India, one in 20 (5.25%) people over 18 years of age have ever suffered (at least once in their lifetime) from depression amounting to a total of over 45 million persons with depression in 2015 (Annex 1).

Depression in primary health care settings

CMDs are widely prevalent in primary care settings in LMICs. Several studies conducted in India have documented that 17–46% of patients attending primary health centres suffer from CMDs.^{18–24} Among the patients of primary care facilities who suffer from CMDs, depression was the commonest disorder (63.6%).²² A recent study reported a prevalence of 30.3% for depression among outpatient attendees in a secondary hospital in Delhi.²⁵

For both women and men, physical symptoms reported in primary care have strong cultural, social and psychological components that are missed and remain unaddressed in traditional biomedical care. For example, women in urban slums express poor mental health more often, including depression, as gynaecological concerns in primary care settings.²⁶ Thus, a culturally sensitive inquiry becomes essential for the detection and management of persons with depression who attend primary care settings.

Mortality associated with depression

People with depression are 1.52 times more likely to die than the general population, probably due to their untreated mental or physical health problems.²⁷ Further, with depression being associated with many terminal illnesses, the contribution to

mortality could be much higher. In addition, the association of depression and suicides are well established and studies have shown the probability of deaths from suicide among depressed hospitalized patients to be 15%.²⁸ Certain vulnerable situations and particular risk groups are also at an increased risk, as in the case of farmer suicides. Psychological autopsy studies reported a depression prevalence ranging from 2% to 37.7% among suicide decedents.^{29–32}

Depression can affect anyone

Depression can affect people from all backgrounds across the life-course, from early childhood to the end stages of life, with an increased toll at certain time points. Much of the understanding in this area is centred around depression among adults, but it is essential to recognize the fact that children, adolescents and the elderly population are susceptible and affected as well.

Postpartum depression

Depression during pregnancy and after childbirth is known to affect adversely the growth and development of the offspring, especially in developing countries.³³ Emerging evidence also indicates that failure to thrive is more common in infants whose mothers have postnatal depression.³⁴ The reported prevalence of postpartum depression in India ranges between 15.3% and 23.0% with an incidence of 11.0%.³⁵⁻³⁷ Around 14% of mothers continue to have symptoms of depression till up to 6 months after delivery.³⁶ Economic and interpersonal relationship issues, partner violence, alcohol use by spouse and gender of the newborn child are among the major determinants of postpartum depression.³⁵⁻³⁶

Depression among children and adolescents

Depression among children and adolescents, if left unattended, can lead to protracted health and mental health problems in later life. The overall prevalence rates of childhood depression in India vary anywhere between 0.3% to about 1.2%.³⁸⁻³⁹ The NMHS (2015-16) reported a prevalence rate of 0.8% (CI 0.3–1.4) for depression among 13–17-year-old children.⁵ Traumatic experiences in early childhood, frequent migration, negative life events, educational setbacks, early relationship problems, family history of mental illness as well as stress at school and in the family are linked in varying degrees to depression among children and adolescents.⁴⁰

Depression in adults

Clinical depression among adults is more than extremes of normal mood, with early onset during young adulthood. The prevalence of depression in India as observed in previous studies^{10-12,15-17,19} varies from 1.8% (severe) to 39.6% (mild to moderately severe), depending on study methods. A wide range of social, economic, cultural and psychosocial factors, especially changing life styles with lack of support systems in an environment of globalization, urbanization and migration are often linked with depression in young and middle-aged groups.

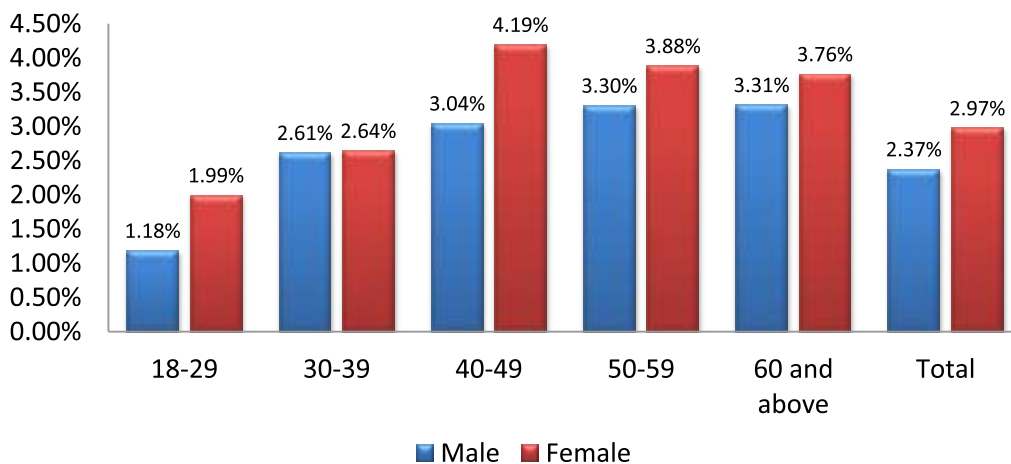
Depression among the elderly

With an ageing population, depression among the elderly is likely to increase in the coming years, with higher prevalence among the elderly than that in the general adult population. A systematic review reported a median prevalence of 21.9% (IQR, 11.6–31.1%) for depression among the elderly in India.⁴¹ Among the community based studies in the elderly, the prevalence of depression ranged from 3.9% to 47.0% with higher rates among female and urban residents. Living alone, stressful life events, lack of social support systems, recent loss of a loved one, lower socioeconomic status and presence of comorbid medical illnesses are some of the risk factors for depression in the elderly.

Age, gender and urban-rural differentials

A higher prevalence of depression among women and working age adults (aged 20–69 years) has been consistently reported by Indian studies.^{11,16,17,42} Depression is also common among the elderly. Several reasons are attributed to higher rates among women – biological and hormonal factors are found to be playing a greater role amidst a wide array of social and economic factors. Findings from NMHS have shown consistently higher rates for females across all age groups and among those residing in urban metros as compared to their counterparts. Prevalence reached its peak in the adult age group, with above 3.5% in females and above 3% in males aged 40 and above (Fig. 2).⁵ NMHS also reported a glaring differential in household income for depression with the prevalence of current depression in the lowest income quintile group (3.4%) being almost twice the prevalence in the highest income quintile population (1.9%).⁵

Fig. 2: Prevalence of depressive disorders in India by age and sex – NMHS 2015-16 findings



Depression has multiple risk factors

Depression is due to multiple factors resulting from complex mechanisms; there can be no single identifiable cause. However, there is conclusive evidence to reveal that several biological, social, economic, cultural and environmental factors operate in a maladaptive individual, leading to depression (Fig. 3).

One may develop depression due to the loss of a loved one, or it may unfold in the backdrop of multiple social or financial stresses, or on an account of a family history of depression, or it may begin in the background of a chronic medical condition. Some individuals can experience loneliness and feeling low for no apparent reason at all. It is crucial to note that recognition of these factors is important to provide appropriate intervention for the affected individual and to support the family.

Biological factors

About a third of depression cases are linked to genetic factors and the rest to non-genetic or environmental factors.⁴³ However, evidence of the role of specific genes or specific gene environment associations is not yet established. A substantial association between genetic vulnerability to depression and early childhood traumatic experiences is known to exist. Even though early life trauma increases the chances of developing depression, not all individuals develop depression; and those who develop it, may do so due to the presence of genetic factors. Deficiency of monoamines, particularly noradrenaline and serotonin, are also known to play a role in the pathogenesis of depression.

Psychological factors

Exposure to negative parental influences such as a critical and condemning parental style during early childhood may give rise to negative feelings about oneself. The long-term consequences of separation or early loss of the maternal attachment bond are many, and include depression.

Social factors

Distressing social relationships such as familial, marital and parental relationships have been associated with the onset of depression.⁴⁴ Domestic and intimate partner violence (IPV) among women, which is prevalent in India and other LMICs,^{45,46} along with partner's alcohol use are closely associated with depression. Of recent importance is the impact of modernization, urbanization, migration and globalization and consequent loss of family and social support systems, leading to social isolation. Cities with dense population, high migration, poor planning or organization

of services lead to health hazards and residents may be at risk for mental health problems, including depression.⁴⁷

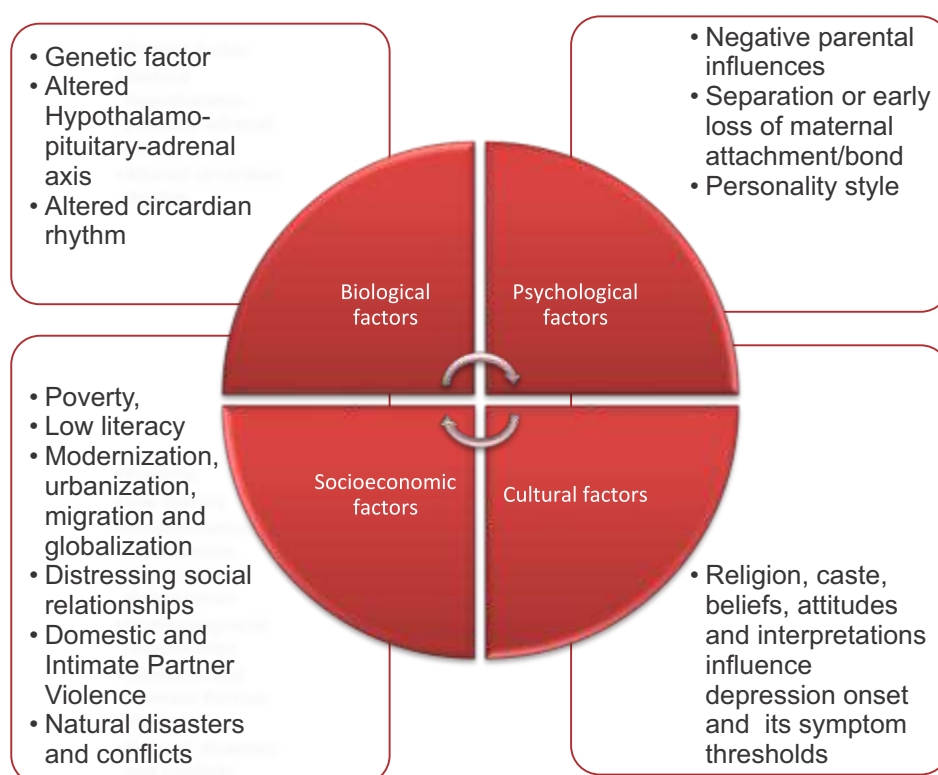
Cultural factors

Culture plays a significant role, such as religion, caste, beliefs, attitudes, interpretations and symptom thresholds, which vary across different parts of India. People with depression often have features related to various sociocultural contexts and may not fit into the classical definition of depression as per established diagnostic categories.⁴⁸ People in distress often experience different symptoms; general physicians, primary care doctors and health care workers need to have proper insight requiring appropriate skills for understanding and interpretation of these presentations. This cultural understanding is critical to develop integrated models of care delivery in different settings.

Economic factors

People who experienced acute (sudden economic crisis) or chronic (poor income households) economic adversities are more vulnerable to developing depression. Individuals living in conflict zones or at times of natural disasters are also likely to experience depression to a greater extent.

Fig. 3: Risk factors of depression



Poverty and mental health

Poverty and mental health interact in a “vicious cycle”. People with CMDs are more likely to drift into poverty due to increased health expenditure, reduced productivity, lost employment, school dropout, reduced social support, and stigma associated with these conditions.⁴⁹ Poverty also increases the risk of developing CMDs through social exclusion, high stressors, reduced social capital, malnutrition, obstetric risks and increased risk of violence and trauma, all of which increase the risk for higher prevalence of mental disorders. Furthermore, lack of access to quality and continued care disposes individuals to have a long and protracted illness. With one in five Indians being poor (Reserve Bank of India, September 2013 [<https://www.rbi.org.in/scripts/PublicationsView.aspx?id=15283>]), it is imperative to consider mental disorder alongside other diseases associated with poverty and within the overall developmental agenda of the country.

In conclusion, it is essential to note that depression has multifactorial origin with a complex interplay of factors which, spread over different domains of an individual's life, operate in togetherness, over short or long periods, can be cumulative and un-resolving in nature, leading to protracted illness.

Depression is a cause and consequence of many health conditions

Chronic communicable diseases

Burden due to depression has particular relevance in LMICs because of its association with poverty and Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS).⁵⁰ By hindering treatment adherence in HIV/AIDS, depression adds to the burden to HIV/AIDS.⁶

Mental health comorbidity

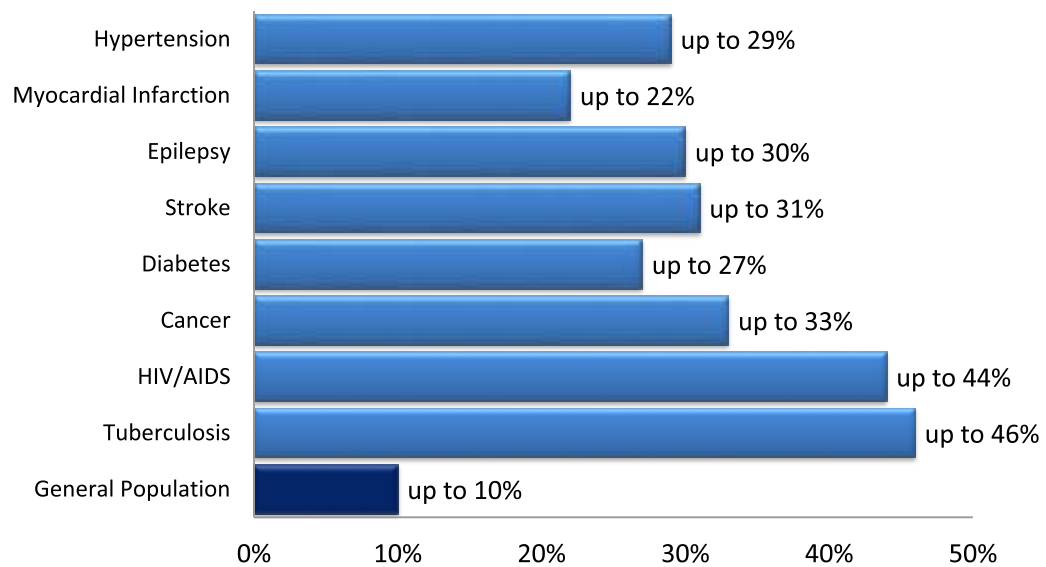
Findings from NMHS 2015-16 showed that nearly 30% of those with depression have substance use disorder as a comorbid condition. Conversely, those with long-term use of alcohol and drugs are known to suffer from depression to a greater extent.

Chronic noncommunicable diseases

Chronic diseases (cardiovascular diseases, mental health disorders, diabetes, and cancer) and injuries are the leading public health problems of India.^{6,51} Mental disorders, especially depression share common determinants with NCDs and frequently co-occur. Poor mental health can be a precursor to or a consequence of NCDs and it can exacerbate NCD risk factors such as unhealthy diet, physical inactivity, tobacco use and harmful alcohol use.⁵² Prevalence of major depression among individuals with NCDs ranges from 22% to 33% (Fig. 4).⁵³

There is a significant association between depression and incidence of type 2 diabetes. Depression is associated with a 60% increased risk of type 2 diabetes and diabetes doubles the odds of depression.^{54,55} Emerging evidence from South Asia has shown that psychosocial factors like depression and stress at work or home have a significant association with acute myocardial infarction (odds ratio 2.62).⁵⁶ Risk of ischemic stroke is increased among individuals suffering from depression and 31% of stroke survivors are likely to have depression at any time-point up to 5 years after stroke (systematic review).^{57,58} Prevalence of depression among cancer patients in palliative and non-palliative care settings is 24.6% and 20.7%, respectively.⁵⁹ Depressive symptoms were 7.85 times more likely among cancer patients when compared to those without cancer and 6.03 times more likely in those suffering from other disease conditions.⁶⁰

Fig 4: Prevalence of major depression in patients with physical illness



Source: Investing in mental health, WHO 2003

Depression impacts all walks of life

Depression of moderate to severe nature is a disabling condition posing substantial health and socioeconomic impact on individuals, families, the community and society at large. Along with suffering from distressing symptoms of depression, affected individuals are unable to participate in work and social activities, resulting in significant socioeconomic burden on the family and community.

Disability

In India, nearly two thirds of the individuals with depressive disorder reported disability of varying severity across domains of work life (67.3%), social life (68.6%) and family life (70.2%).⁵ One fifth of individuals affected with depression were facing severe restrictions in performing their daily activities. Such inability to perform daily activities was present on an average for 20 days in the month prior to the study. Over 50.0% of individuals with depressive disorder in India reported that their condition interfered with their daily activities.⁵

Social impact

Depression disrupts routine daily activities of the affected individual. Caring for a person with depression entails restriction of social activities of other family members. Seventy-seven per cent of relatives, including family members of the persons suffering from affective disorder experienced some burden with respect to financial issues, disruption of family routine, family leisure and family interactions.⁶¹ Family members of individuals with depression missed work and leisure activities on an average by 8.5 and 10 days, respectively, in the past 3 months.⁵

Economic impact

Depression is associated with significant functional impairment, ranging from reduced work functioning, absenteeism, impaired productivity, decreased job retention and early retirement across a wide variety of occupations. This drives individuals into economic poverty, depriving them of social networks and status within the community.

The economic burden due to depression is attributed significantly to high treatment gap, lost productivity and comorbid conditions. Depression as a comorbid condition contributes to the growing economic burden, with 38% of the total costs due to depression itself.

Recent evidence shows that on average, an Indian family spends around Rs.1500 per month towards care of affected persons, which includes consultation, drugs and transport related costs.⁵ With the significant treatment gap and the high indirect costs associated with morbidity, depression will have diverse and far-reaching social and economic consequences in India.

Most persons with depression remain without care

Usually, people with depression are unaware that they are suffering from depression and that it is a treatable condition. With disturbed emotions, people often deny their illness and develop a reluctance to seek help. In some instances, despite individuals knowing they are ill, they are unaware of where to proceed for treatment or are ashamed to visit a mental health professional due to the stigma of being labelled as a psychiatric patient. This contributes to a huge treatment gap for depression. Further, those who begin treatment are likely to drop out without completing the course of treatment due to various reasons, leading to frequent relapses and further widening of the treatment gap.

Treatment gap is a useful indicator for accessibility, utilization and quality of health care.⁶² A treatment gap of more than 90% has been documented for depression in LMICs.^{63,64} In India, a treatment gap of 87.2–95.7% was reported for depression from community based studies.^{16,65} Data from the World Health Survey reported a treatment gap of 88%, while the recent NMHS showed a treatment gap of 86% for depression and 80% for any suicidal risk behaviour.^{5,66}

The high treatment gap for depression in India is contributed by several demand and supply side barriers. The key demand-side barriers that contribute to the treatment gap include lack of awareness and low perceived need, while the supply side barriers include insufficient, inequitably distributed and inefficiently used resources. The treatment gap is also influenced by high out-of-pocket costs and poor quality of care associated with mental health services. Studies from India reported that primary health care professionals are often inadequately trained, and reluctant or unable to detect, diagnose, or manage common mental disorders.^{67,69} Many people with mental health problems even experienced stigma within the health care services by health care providers.

Depression is a highly stigmatizing condition

Stigma associated with depression has devastating consequences for the individuals and their families. False beliefs and negative attitudes about depression were reported, with a substantial proportion of the general public agreeing that people with these types of problems are a danger to others, can be erratic in their behaviour and should be avoided.⁷⁰ It was observed that perceptions of public stigma influenced the experience of self-stigma, help-seeking attitudes, health care utilisation, social participation and vocational integration. In a multisite international study, 20–37% of persons with depression in India were reported to have stopped themselves from doing something important because of anticipated discrimination (“why try” effect). The study also reported a higher rate of experienced discrimination (enacted stigma) for depression (79%) with substantial impact in some key life domains (e.g. family, workplace, or social relations). The study reported family members as the main source of discrimination, who were also the source of most reported support.⁷¹

The findings highlights the need for anti-stigma interventions in reducing the burden of depression and effective utilization of scaled-up services for depression in India. Such anti-stigma interventions should be integrated with specific focus on educating the general public to improve their mental health; empowering patients to enhance their pursuit of social participation; educating, empowering and supporting the caregivers; improving workplace interventions; providing social contact and care programme for health care providers and creating responsible media.

Early recognition of depression is beneficial

Though depressive symptoms are common in social and economic adversities, continued presence, increasing intensity and interference in daily activities should warrant people to seek appropriate care. Failure to recognize depression at an early stage is often associated with poor outcomes among affected persons. Data from NMHS revealed that the interval between onset of symptoms and seeking help ranged between 1 month to 10 years, and that traditional and spiritual remedies along with household remedies was often the first step.⁵

The symptoms of depression, though varied, can often be recognized in several ways. The symptoms as per the simplified version of ICD-10 diagnostic criteria, as shown in Box 1, would help in early recognition of depression. Commonly referred to as “screening”, recognizing depressive symptoms at an early stage is probably the first step in the pathway to manage depression and this needs to happen in a variety of settings like homes, workplaces, educational institutions and health care and community settings through informed and trained persons in all such settings.

The reliability of screening instruments like the General Health Questionnaire (GHQ), Kessler Psychological Distress Scale (K6) and the Self-reporting Questionnaire (SRQ) have been well established in India, though a higher cut-off was recommended in resource-poor primary settings. Even asking two questions routinely to all persons in primary care settings can help in early detection of individuals (Box 2). Several training modules (NIMHANS modules, IRIS Model Framework Manual for accredited social health activists [ASHAs], etc.) are available in India for training ASHAs, health workers, Anganwadi workers, school teachers, counsellors and others in early recognition and provision of care for depression.

Increasing awareness of family members, gatekeepers (individuals in a community who have face-to-face contact with large numbers of community members as part of their usual routine) and traditional spiritual healers can help in early recognition and timely remedial measures. Few examples exist about integration of traditional systems with modern systems for better management of depression.

Box 1: A simplified version of the ICD-10 diagnostic criteria for diagnosing depression

Criteria and symptoms of depression

The symptoms need to be present for a minimum period of at least 2 weeks.

Major symptoms

- Feeling sad or depressed most of the day, nearly every day
- Markedly reduced interest or pleasure in almost all activities, most of the day nearly every day
- Loss of energy or fatigue nearly every day.

Minor symptoms

- Loss of self-confidence or self-esteem; unreasonable feelings of guilt nearly every day; recurrent thoughts of death or suicide, or suicidal behaviour
- Diminished ability to think or concentrate, bodily agitation or slowness, disturbed sleep (reduced or increased sleepiness) nearly every day
- Gloomy and unhappy views of the future, increased or decreased appetite and/or weight.

Box 2: A 2-item screener for early detection of depression in primary care settings

The following two questions may be used for patients who might be at risk for depression. Those who score 'YES' on both questions can be further assessed for depression.⁷²

- (1) During the past 4 weeks, have you often been bothered by feeling down, depressed or hopeless?
- (2) During the past 4 weeks, have you often been bothered by having little interest or pleasure in doing things?

In health care settings, whenever depressive symptoms are part of comorbidity, they are often overlooked, with primary importance being given to the leading condition. Given the fact that nearly one in four individuals seeking care in primary care settings may have depression with varied presentations, opportunities and challenges exist for early recognition in these places. Engagement of primary care physicians in screening of individuals is often found to be helpful. General practitioners (GPs) can generally identify about half of true cases and can accurately exclude majority of non-depressed individuals. Severe depression is diagnosed more reliably than less severe forms.⁷³ These scenarios highlight the need for integrating mental health into primary health care through trained professionals or co-workers to ensure universal access of care for individuals with depression.

Barriers and challenges

With limited availability of mental health manpower (0.07 psychiatrists per 100 000 population and 0.12 per 100 000 population of psychiatric nurses),⁷⁴ India is facing an acute shortage of professionals with either zero or insufficient training, supervision and support to recognize, refer and follow-up those with depression. Furthermore, supportive systems of uninterrupted supply of even the essential psychotropic drugs, referral systems, counselling services and continued care are often missing and need to be overcome. According to the NMHS 2015–16, the performance of the mental health system varied widely between states. With the exception of few states – Gujarat, Kerala and Tamil Nadu, performance in most of the states was far from satisfactory. The mental health system was fragmented and isolated with respect to mental health service delivery and was largely confined to diagnosis and provision of drugs. Critical aspects of the mental health system like policy, budget, action plan, programme implementation, human resource development/capacity building, public awareness, engagement of civil society organizations, coordination within and between different sectors and monitoring and evaluation need to be strengthened across states.⁷⁵

Depression can be effectively managed

Over the years, a large body of evidence has demonstrated the feasibility of interventions in different resource settings. Effective management of depression includes: (i) early recognition of the condition across the life span; (ii) provision of appropriate and effective treatment, including pharmacological and non-pharmacological interventions; and (iii) ensuring continuity of care and adequate follow up for reducing relapse and chronic course of the illness. Secondly, services for depression should be integrated within the existing health system with ongoing national programmes and into the health related sectors with adequate sensitization and training of all concerned, supported by specialist supervision. Thirdly, awareness and demand for service in the community should be increased through health education.

Combinations of care work best

Evidence demonstrates that depression is a treatable condition. Several guidelines exist for management of depression and are widely practiced all over the world. Depression can be effectively managed with pharmacological means (anti-depressant medications) and psychotherapeutic means (counselling or therapy) or a combination of both, depending on the severity of the condition along with interventions that promote healthy lifestyles. In the management of mild depression, psychotherapy and counselling is the treatment of first choice rather than pharmacologic means.⁷⁶

Developing strategies for care are vital

The primary health care system in India consists of the primary health centre, community health care centre, taluka hospitals, some exclusive institutions (maternity homes, care centres, etc.) and district hospitals in the public sector. Private health care providers of varied types are present in rural and urban areas as well. The identification and management of depression can occur at different levels of health care settings (primary care centres, general hospitals, specialised institutions) or other settings such as schools and work places.

Need for task shifting and sharing

Given the major barrier in mental health care delivery of the lack of trained personnel to provide psychosocial care to individuals suffering from depression and other mental health conditions (supply side barrier), “task shifting” to health workers with limited education and training in health care has been effective and proven in other medical conditions, such as noncommunicable diseases, antiretroviral therapy, infectious disease control and child and maternal health. However, task shifting needs to be augmented with restructuring of the health system and monitoring by health specialists.

Integration of mental health care into primary care systems is the key

Treating mental health conditions in the primary care system would involve treating the person in totality for the existing health problems near to their door step. Further, persons with mental health problems feel less stigmatized visiting their primary care physician for their mental health care. Such integration strengthens the overall health care system while enhancing comprehensive care.

It is further beneficial and cost effective that the care of common mental health conditions are integrated into conventional care being provided for the care of people with NCDs (cancer, diabetes and cardiovascular disorders), HIV/AIDS, maternal health care and child and adolescent health programmes.^{77,81} A successful model of integration based on the above principles is seen in the district of Thiruvananthapuram in Kerala with integrated care since 1999.⁸²

Skilled health and paraprofessionals are crucial in care

With the need for recognition of mental health with many ongoing national health programmes, ample opportunities exist to sensitize, inform and train medical professionals and paraprofessionals. Beginning with the early 1980s under the Bellary model of care,⁸³ several models of training primary health doctors, GPs and health workers have demonstrated that it is possible, feasible and cost effective in

nature. Training programmes for health workers include recognition, referral and follow-up care, while the medical officers' training includes assessment and management aspects as well. Community mobilization and continued care are emphasized in all training programmes.

Referral pathways are highly required

The primary care physician does have limitations in some areas for the management of some forms of depression. The primary care physician can prescribe medications for moderate to severely depressed individuals and needs to refer those individuals who are suicidal, have comorbid alcohol dependence problems, those who do not respond to the treatment, or have diagnostic problems, to the specialist psychiatrist. After providing appropriate treatment, the specialist could refer back to the primary health centre doctor or provide maintenance treatment at the specialized care setting. Such a referral system is crucial to the overall success of the system.

Ensuring continuity of care and support

Many individuals with depression need continued care with or without medication for varying periods of time. The duration of care varies from individual to individual and the setting he/she lives in. Follow up by health care workers, ASHAs, counsellors and other support workers will help in continuity of medication, change in life styles, stress reduction and other rehabilitation components. Engaging family members will be of immense benefit at this stage and requires building motivation efforts.

Depression management in institutional settings

The management of depression at the institutional settings could occur in general hospital psychiatry units, medical college hospitals or at speciality psychiatric institutes and nursing homes for those who come directly or those referred. These advanced care settings can provide advanced management of depression that may not be available at the primary care level, such as counselling and therapy, electro-convulsive therapy, provisions for in-depth analysis and diagnostics and management with multiple drugs for complicated cases of depression as well as presence of advanced inpatient facilities (ICU care for suicidal patients). Primary care doctors could refer patients with depression who (a) are not responding to two different classes of standard antidepressant drugs; (b) have suicidal thoughts, display suicidal behaviour and attempts; and (c) have severe depressive symptoms such as refusal to eat, presence of catatonic and psychotic symptoms. Once treated, the specialist psychiatrist may refer back these patients for maintenance treatment and management to the primary care system, thus completing the loop.

Integrating depression with national health programmes is vital

Besides strengthening the health system response by increasing the engagement of the available mental health workforce through capacity building and task-sharing,

integrating depression care into the ongoing programmes such as Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) Programme; National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS); National Programme for Health Care of the Elderly (NPHCE); Rashtriya Kishore Swasthya Karyakram (RKSK), and others will widen the opportunities for health promotion, early recognition and continuity of care for depression.

With the emergence of integrative medicine as a frontier and depression being associated strongly with cultural phenomenon and positive effects of yoga, there is a need to strengthen the ayurveda, yoga and naturopathy, unani, siddha and homoeopathy (AYUSH) network in the public sector for community-based preventive and promotive interventions for depression.

Intervention for depression in health related sectors

Determinants of depression are multidimensional and, therefore, interventions for depression should extend beyond the health sector. There is great need for intersectoral collaboration and actions to address the burden and impact of depression. Sectors like education, employment, social welfare, law and nongovernmental organizations (NGOs) have a significant role in prevention of depression and promotion of mental health.

Interventions in educational settings: Some children and adolescents are at risk of developing depression. Interventions that aim to improve their emotional resilience can reduce depression as well as prevent suicides. Educational settings like schools and colleges offer unique opportunities for effective implementation of interventions aimed at early recognition, mental health promotion and prevention and care of depression. Teachers and motivated youth can act as effective gatekeepers and some of them have been found to be effective. Similarly, life skills training for students help in building greater resilience and improve mental health.

Interventions in the workplace: Workplace mental health interventions are beneficial both for employee and the employer. Following early identification, there is strong evidence regarding the beneficial effect of cognitive behaviour therapy (CBT) and antidepressant drugs in significantly improving the clinical (reduced depression scores) and workplace outcomes (more job retention and more worked hours).^{84,85} Activities that enhance employees' control (educational workshops, problem/stress management committees) and those which promote physical activity in the workplace have also demonstrated moderate evidence in reducing the symptoms of depression.⁸⁵ Emerging evidence indicates that screening and treatment (both psychotherapy and pharmacotherapy) for depression in workplaces is cost effective.⁸⁶

Civil society organizations: Civil society organizations working in the areas of health (and mental health in particular) can help in strengthening curative and rehabilitative services to specific vulnerable populations and also in developing community care models through research. They can be active agents for community engagement, empowerment, building enabling environment and for political advocacy purposes. Collaboration with and support to NGOs would bridge the gap in service provision and advance care for depression in India. Several examples have demonstrated successful engagement of civil society organizations during disaster situations in strengthening psychosocial services, as well as with integrated services for care of mentally ill in religious institutions.⁷⁵

For the first time in India, a mobile tele-psychiatry unit was commissioned by SCARF with support from TATA Educational Trust. The bus has teleconferencing facilities, a computer for data storage and a large television fixed at its rear (used for awareness programmes in the villages). The bus moves from village to village, accessing persons with mental illness. After the psychiatric consultation through linking with Chennai SCARF office, medicines will be given from the pharmacy located within the bus.⁸⁷

Media engagement: Print, visual and digital platforms are effective agents of change for a wide range of activities like awareness, advocacy, mental health promotion as well as for strengthening services for the affected. Several activities can be undertaken by media –disseminating information, publishing strategies and places of care in neighbouring communities, stories of those who have recovered, breaking myths of depression and stigma reduction activities. Campaigns addressing depression can be effective when combined with targeted, focussed and sustained interventions.

As depression is closely interlinked with suicide, communication campaigns that address risk factors, help seeking strategies, dispelling myths, care availability, survivor stories and others that work towards helping those contemplating suicide will greatly benefit depression as well.

In recent times, the emergence of social media has provided ample opportunities for all to engage in discussions and dialogues, including in the field of mental health. Targeted information that works towards mobilizing individuals in a strategic direction is often found beneficial. Stigma reduction programmes, self-help groups, local community programmes, resilience building in disadvantaged situations, community mental health programmes and engagement of local leaders and influencers will all help in preventing depression as well as suicides.

Integration in health and related policies

The National Mental Health Policy 2014 (<http://www.mohfw.nic.in/>), recognizes the various factors and circumstances that lead to depression and emphasizes the role of different sectors like education and the workplace in mental health promotion and prevention of depression. Highlighting the relationship between poverty and depression, the policy has stressed the need for reducing poverty and income disparity in the country to improve mental health outcomes. Under the ambit of mental illness, depression is considered a disabling condition in the Rights of Persons with Disabilities Act, 2016 benefitting the persons affected with depression (<http://www.disabilityaffairs.gov.in/>). The Mental Health Action Plan 365 provides a framework of actions for realizing the objectives of mental health policy, which also includes provision of counselling services for children with mental distress in schools and colleges (Annex 2). However, in view of the significant burden of depression and with relatively greater proportional morbidity among those with mental disorders, there is need for a policy level focus on depression.

Strengthening NMHP and DMHP

With the NMHP and its implementation arm, the District Mental Health Programme (DMHP), there is greater scope for strengthening and scaling up of services for depression through focussed and dedicated interventions. Screening and treatment for depression using simple tools and standard protocols can be implemented at various levels of health care, workplace and educational settings. Accessibility to treatment for depression can be enhanced through provision of services and ensuring continuous supply of basic drugs at primary health care settings (both urban and rural). Specialized and continued care for depression should be strengthened through an organized referral network at the district level, with active engagement of health professionals from the private sector.

To reduce the resource gap for scaling up of services for depression, capacity strengthening of professionals and non-professionals (both within and outside the health sector) should be carried out by adopting innovative training programmes. The number of mental health professionals within the district mental health team can be increased to provide better coverage of services. Further, the coverage of service can be expanded by including depression in several ongoing community outreach programmes, e.g. immunization outreach services can be tied up with screening for maternal depression. The role of different systems like yoga under AYUSH can be explored for possible integration.

Demand for service should be augmented through activities aimed at improving mental health literacy and reducing stigma. NGOs and civil society organizations that can play an active role in mental health advocacy should be involved in planning, implementation and monitoring of DMHP. To improve programme implementation, operational research related to depression should be strengthened, and depression integrated into the existing Health Management Information System for periodic monitoring and evaluation and by undertaking implementation research.

Depression—Let's talk and act

Lifting depression from the shadows requires developing a comprehensive and integrated strategy with activity components inbuilt into existing programmes. These activities should be focussed and targeted at reducing the burden of depression as well as in prevention of suicide. As both conditions are widespread across all sections of society, targeting across the lifespan as well as among high-risk groups will be beneficial. Health professionals, including mental health groups should play an active role and need to get engaged and involved in this process – not just in care, but in mental health promotion as well as continuity of care and rehabilitation services. The focus should be on early recognition, improved and timely care, stigma reduction and in reducing the impact by inclusive and expanded support systems for affected individuals and families. Dialogues and discussions with communities form the cornerstone for such activities. With a commitment to SDG 2030 (Annex 3), India needs to develop sustainable, broad-based and integrated programmes for better recognition and care of people with depression in the coming years. It is time to “Talk and act” about depression in India.

Annexures

Annex 1: Burden of depression in India – findings from NMHS

NMHS, 2015-16 was conducted on a nationally representative sample of 39 485 individuals, sampled from 12 states of India using uniform and standardized methodology. The survey examined the prevalence and patterns of mental disorders along with treatment gap, disability and socioeconomic impact. M.I.N.I. International Neuropsychiatric Interview (MINI) Version 6 and MINI KID were used to interview individuals at their doorstep, using handheld devices for data collection by trained field research officers. In addition, the current status of mental health systems was assessed using multiple methods and by using a modified version of WHO AIMS questionnaire.³⁷

The lifetime prevalence of depression in India was 5.25% among individuals aged 18+ years and the current prevalence was 2.68%, highlighting the fact one out of 20 adult individuals have suffered from depression in the past with half of them suffering at present. Current prevalence across the states ranged between 1.24% in Gujarat to 4.70% in Jharkhand. The reported prevalence was more in the 40–49 age group (3.64%) and among females (2.97%). Prevalence among urban metro residents (5.17%) was two times higher than urban non-metro (1.90%) and rural residents (2.15%). Prevalence was more in those who were illiterate (3.63%), among the widowed, divorced or separated (5.23%) and among those in the lowest income quintile (3.42%).

Among those with any mental morbidity, nearly 25% were suffering from depression and this proportion ranged between 19.6% in urban non-metro areas to 35.2% in urban metro area. Among individuals with depression, proportion of mild, moderate and severe depression was 24.6%, 36.4% and 39.0%, respectively. Nearly half of all individuals with depression (51.3%) had a comorbid condition including other mental disorders.

Despite considerable burden of depression in India, more than 80% had not received any treatment. Among those receiving care from formal health care providers, median duration of being on treatment was 24 months, though the median duration of illness was 36 months. Only 48.6% received treatment from a public health care provider.

Every two of three individuals with depression reported disability in work life (67.3%), family life (70.2%) and social life (68.6%). Nearly 21% of affected individuals reported substantial difficulties in carrying out their daily activities. Difficulties of varying severity in carrying out their normal activity were present for an average of 20 days in the previous one month period.

Depression imposes a significant socioeconomic burden on the family. On an average, family members of affected individuals were not able to work for 8.5 days in the previous three months, nor able to participate in leisure/social activities for 10 days in the last one year. The families had to spend Rs.1500 per month towards treatment, which included cost of drugs, consultation and transportation costs.

Annex 2: Mental Health Action Plan 2013–2020

Mental Health Action Plan 2013–2020, developed in response to the Sixty-fifth World Health Assembly resolution, focuses on the need for a comprehensive and coordinated response towards mental health from health and social sectors at the country level. Its overall goal is to promote mental well-being, prevent mental disorders, provide care, enhance recovery, promote human rights and reduce the mortality, morbidity and disability for persons with mental disorders.

The proposed actions of this mental health action plan are applicable to a broad range of mental disorders including depression and suicide. However, two targets specifically relate to depression and suicide:

Global target 2: Service coverage for severe mental disorders (psychosis, bipolar affective disorder, moderate–severe depression) will have increased by 20% by the year 2020.

Global target 3.2: The rate of suicide in countries will be reduced by 10% by the year 2020. The set of actions listed are intended to serve as guidance to the national action plan. Furthermore, the global targets established provide the basis for measurable collective action and achievement by Member States towards global goals

Available at: http://apps.who.int/iris/bitstream/10665/89966/1/9789241506021_eng.pdf

Annex 3: Sustainable Development Goals and mental health

The Sustainable Development Goals (SDGs) promoted by United Nations as part of the 2030 Agenda for Sustainable Development officially came into force in January 2016. Over the next 15 years (i.e. by 2030), countries are expected to mobilize efforts to achieve the targets pertaining to all 17 SDGs. There are several SDG goals and targets, which are either directly or indirectly linked to health. The goals and their targets identified below are related to the broader mental health spectrum. The conditions/issues addressed in these targets, specifically noncommunicable diseases, substance use disorder and violence against women (including domestic violence) are known to reduce the burden of depression.

- Goal 3 – Target 4: By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being.
- Goal 3 – Target 5: Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
- Goal 5 – Target 2: Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.

Available at : <http://www.un.org/sustainabledevelopment/health/>

References

1. Depression and other common mental disorders: global health estimates. Geneva: World Health Organization; 2017 (<http://apps.who.int/iris/handle/10665/254610>, accessed 25 March 2017).
2. Saxena S, Krug EG, Chestnov O, World Health Organization, editors. Preventing suicide: a global imperative. Geneva: World Health Organization; 2014.
3. GHDx – GBD Results Tool [website]. Seattle: Institute for Health Metrics and Evaluation; 2017 (<http://ghdx.healthdata.org/gbd-results-tool>, accessed 25 March 2017).
4. WHO. Health statistics and information systems – Estimates for 2000–2015 [website]. Geneva: World Health Organization; 2017 (http://www.who.int/healthinfo/global_burden_disease/estimates/en/, accessed 25 March 2017).
5. National Mental Health Survey of India, 2015–16. Prevalence, Pattern and Outcomes. [website]. Bengaluru: National Institute of Mental Health and Neuro Sciences; 2016 (<http://www.nimhans.ac.in/>, accessed 25 March 2017).
6. Mathers CD, Loncar D. Projections of Global Mortality and Burden of Disease from 2002 to 2030. *PLOS Med* 2006;3:e442.
7. GBD 2015 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*. 2016;388:1545–602.
8. Üstün TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJL. Global burden of depressive disorders in the year 2000. *Br J Psychiatry* 2004;184:386–92.
9. Kessler RC, Bromet EJ. The epidemiology of depression across cultures. *Annu Rev Public Health*. 2013;34:119–38.
10. Ferrari AJ, Charlson FJ, Norman RE, Patten SB, Freedman G, Murray CJL, et al. Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010. *PLOS Med* 2013;10:e1001547.
11. Charlson FJ, Baxter AJ, Cheng HG, Shidhaye R, Whiteford HA. The burden of mental, neurological, and substance use disorders in China and India: a systematic analysis of community representative epidemiological studies. *Lancet*. 2016;388:376–89.
12. Behera P, Sharan P, Mishra AK, Nongkynrih B, Kant S, Gupta SK. Prevalence and determinants of depression among elderly persons in a rural community from northern India. *Natl Med J India*. 2016;29:129–35.
13. Sengupta P, Benjamin AI. Prevalence of depression and associated risk factors among the elderly in urban and rural field practice areas of a tertiary care institution in Ludhiana. *Indian J Public Health*. 2015;59:3.
14. Reddy NB, Pallavi M, Reddy NN, Reddy CS, Singh RK, Pirabu RA. Psychological Morbidity Status Among the Rural Geriatric Population of Tamil Nadu, India: A Cross-sectional Study. *Indian J Psychol Med*. 2012;34:227–31.

15. Rao TSS, Darshan MS, Tandon A, Raman R, Karthik KN, Saraswathi N, et al. Suttur study: An epidemiological study of psychiatric disorders in south Indian rural population. *Indian J Psychiatry*. 2014;56:238.
16. Shidhaye R, Gangale S, Patel V. Prevalence and treatment coverage for depression: a population-based survey in Vidarbha, India. *Soc Psychiatry Psychiatr Epidemiol*. 2016;51:993–1003.
17. Mathias K, Goicolea I, Kermode M, Singh L, Shidhaye R, Sebastian MS. Cross-sectional study of depression and help-seeking in Uttarakhand, North India. *BMJ Open*. 2015;5:e008992.
18. Harding TW, de Arango MV, Baltazar J, Climent CE, Ibrahim HH, Ladrado-Ignacio L, et al. Mental disorders in primary health care: a study of their frequency and diagnosis in four developing countries. *Psychol Med*. 1980;10:231–41.
19. Kishore J, Reddaiah VP, Kapoor V, Gill JS. Characteristics of mental morbidity in a rural primary health centre of haryana. *Indian J Psychiatry*. 1996;38:137–42.
20. Amin G, Shah S, Vankar GK. The prevalence and recognition of depression in primary care. *Indian J Psychiatry*. 1998;40:364–9.
21. Patel V, Pereira J, Coutinho L, Fernandes R, Fernandes J, Mann A. Poverty, psychological disorder and disability in primary care attenders in Goa, India. *Br J Psychiatry*. 1998;172:533–6.
22. Nambi SK, Prasad J, Singh D, Abraham V, Kuruvilla A, Jacob KS. Explanatory models and common mental disorders among patients with unexplained somatic symptoms attending a primary care facility in Tamil Nadu. *Natl Med J India*. 2002;15:331–5.
23. Pothan M, Kuruvilla A, Philip K, Joseph A, Jacob KS. Common mental disorders among primary care attenders in Vellore, South India: nature, prevalence and risk factors. *Int J Soc Psychiatry*. 2003;49:119–25.
24. Patel V, Araya R, Chowdhary N, King M, Kirkwood B, Nayak S, et al. Detecting common mental disorders in primary care in India: a comparison of five screening questionnaires. *Psychol Med*. 2008;38:221–8.
25. Kohli C, Kishore J, Agarwal P, Singh SV. Prevalence of Unrecognized Depression Among Outpatient Department Attendees of A Rural Hospital in Delhi, India. *J Clin Diagn Res*. 2013;7:1921–5.
26. Maitra S, Brault MA, Schensul SL, Schensul JJ, Nastasi BK, Verma RK, et al. An approach to mental health in low and middle income countries: a case example from urban India. *Int J Ment Health*. 2015;44:215–30.
27. Cuijpers P, Vogelzangs N, Twisk J, Kleiboer A, Li J, Penninx BW. Comprehensive Meta-Analysis of Excess Mortality in Depression in the General Community Versus Patients With Specific Illnesses. *Am J Psychiatry*. 2014;171:453–62.
28. Simon GE, VonKorff M. Suicide mortality among patients treated for depression in an insured population. *Am J Epidemiol*. 1998;147:155–160.
29. Bhise MC, Behere PB. Risk factors for farmers' suicides in central rural India: Matched case-control psychological autopsy study. *Indian J Psychol Med*. 2016;38:560.
30. Manoranjitham SD, Rajkumar AP, Thangadurai P, Prasad J, Jayakaran R, Jacob KS. Risk factors for suicide in rural south India. *Br J Psychiatry*. 2010;196:26–30.

31. Chavan BS, Singh GP, Kaur J, Kochar R. Psychological autopsy of 101 suicide cases from northwest region of India. *Indian J Psychiatry*. 2008;50:34–8.
32. Vijayakumar L, Rajkumar S. Are risk factors for suicide universal? A case-control study in India. *Acta Psychiatr Scand*. 1999;99:407–11.
33. Surkan PJ, Kennedy CE, Hurley KM, Black MM. Maternal depression and early childhood growth in developing countries: systematic review and meta-analysis. *Bull World Health Organ*. 2011;89:608–15.
34. Patel V, Rahman A, Jacob KS, Hughes M. Effect of maternal mental health on infant growth in low income countries: new evidence from South Asia. *BMJ*. 2004;328:820–3.
35. Chandran M, Tharyan P, Muliyl J, Abraham S. Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India. Incidence and risk factors. *Br J Psychiatry J Ment Sci*. 2002;181:499–504.
36. Patel V, Rodrigues M, DeSouza N. Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *Am J Psychiatry*. 2002;159:43–7.
37. Gupta S, Kishore J, Mala YM, Ramji S, Aggarwal R. Postpartum Depression in North Indian Women: Prevalence and Risk Factors. *J Obstet Gynaecol India*. 2013;63:223–9.
38. Malhotra S, Das PP. Understanding childhood depression. *Indian J Med Res*. 2007;125:115.
39. Srinath S, Girimaji SC, Gururaj G, Seshadri S, Subbakrishna DK, Bhola P, et al. Epidemiological study of child & adolescent psychiatric disorders in urban & rural areas of Bangalore, India. *Indian J Med Res*. 2005;122:67–79.
40. Krishnakumar P, Geeta MG. Clinical profile of depressive disorder in children. *Indian Pediatr*. 2006;43:521–6.
41. Barua A, Ghosh MK, Kar N, Basilio MA. Prevalence of depressive disorders in the elderly. *Ann Saudi Med*. 2011;31:620–4.
42. Deswal B, Pawar A. An epidemiological study of mental disorders at Pune, Maharashtra. *Indian J Community Med*. 2012;37:116.
43. Sullivan PF, Neale MC, Kendler KS. Genetic epidemiology of major depression: review and meta-analysis. *Am J Psychiatry*. 2000;157:1552–62.
44. Bauwens F, Pardoën D, Staner L, Dramaix M, Mendlewicz J. Social adjustment and the course of affective illness: a one-year controlled longitudinal study involving bipolar and unipolar outpatients. *Depress Anxiety*. 1998;8:50–7.
45. Varma D, Chandra PS, Thomas T, Carey MP. Intimate Partner Violence and Sexual Coercion among Pregnant Women in India: Relationship with Depression and Post-Traumatic Stress Disorder. *J Affect Disord*. 2007;102:227–35.
46. Haqqi S, Faizi A, Haqqi S. Prevalence of Domestic Violence and associated Depression in married women at a Tertiary care hospital in Karachi. *Procedia - Soc Behav Sci*. 2010;5:1090–7.
47. Chen J, Chen S, Landry PF. Urbanization and Mental Health in China: Linking the 2010 Population Census with a Cross-Sectional Survey. *Int J Environ Res Public Health*. 2015;12:9012–24.

48. Jacob KS. Social context and mental health, distress and illness: critical yet disregarded by psychiatric diagnosis and classification. *Indian J Soc Psychiatry*. 2016;32:243.
49. Patel V, Kleinman A. Poverty and common mental disorders in developing countries. *Bull World Health Organ*. 2003;81:609–15.
50. Patel V. Mental health in low- and middle-income countries. *Br Med Bull*. 2007;81–82:81–96.
51. Patel V, Chatterji S, Chisholm D, Ebrahim S, Gopalakrishna G, Mathers C, et al. Chronic diseases and injuries in India. *Lancet*. 2011;377:413–28.
52. World Health Organization IRIS. Social determinants of mental health. Geneva:World Health Organization; 2014 (<http://apps.who.int/iris/handle/10665/112828>, accessed 25 March 2017).
53. World Health Organization, Noncommunicable Disease and Mental Health Cluster. Investing in mental health [website]. Geneva: World Health Organization; 2003 (<http://www.mylibrary.com?id=9723>).
54. Mezuk B, Eaton WW, Albrecht S, Golden SH. Depression and type 2 diabetes over the lifespan: a meta-analysis. *Diabetes Care*. 2008;31:2383–90.
55. Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. The Prevalence of Comorbid Depression in Adults With Diabetes. *Diabetes Care*. 2001;24:1069–78.
56. Joshi P, Islam S, Pais P, Reddy S, Dorairaj P, Kazmi K, et al. Risk factors for early myocardial infarction in South Asians compared with individuals in other countries. *JAMA*. 2007;297:286–94.
57. O'Donnell MJ, Xavier D, Liu L, Zhang H, Chin SL, Rao-Melacini P, et al. Risk factors for ischaemic and intracerebral haemorrhagic stroke in 22 countries (the INTERSTROKE study): a case-control study. *Lancet*. 2010;376:112–23.
58. Hackett ML, Pickles K. Part I: Frequency of Depression after Stroke: An Updated Systematic Review and Meta-Analysis of Observational Studies. *Int J Stroke*. 2014;9:1017–25.
59. Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C, et al. Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. *Lancet Oncol*. 2011;12:160–74.
60. Yang Y-L, Liu L, Wang Y, Wu H, Yang X-S, Wang J-N, et al. The prevalence of depression and anxiety among Chinese adults with cancer: a systematic review and meta-analysis. *BMC Cancer*. 2013;13:393.
61. Chakrabarti S, Raj L, Kulhara P, Avasthi A, Verma SK. Comparison of the extent and pattern of family burden in affective disorders and schizophrenia. *Indian J Psychiatry*. 1995;37:105–12.
62. Amudhan S, Gururaj G, Satishchandra P. Epilepsy in India II: Impact, burden, and need for a multisectoral public health response. *Ann Indian Acad Neurol*. 2015;18:369–81.
63. Wang PS, Aguilar-Gaxiola S, Alonso J, Angermeyer MC, Borges G, Bromet EJ, et al. Worldwide Use of Mental Health Services for Anxiety, Mood, and Substance Disorders: Results from 17 Countries in the WHO World Mental Health (WMH) Surveys. *Lancet*. 2007;370:841–50.

64. Wang PS, Angermeyer M, Borges G, Bruffaerts R, Tat Chiu W, De Girolamo G, et al. Delay and failure in treatment seeking after first onset of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry*. 2007;6:177–85.
65. Rathod SD, De Silva MJ, Ssebunnya J, Breuer E, Murhar V, Luitel NP, et al. Treatment Contact Coverage for Probable Depressive and Probable Alcohol Use Disorders in Four Low- and Middle-Income Country Districts: The PRIME Cross-Sectional Community Surveys [website]. *PLoS ONE* 11(9): e0162038. doi:10.1371/journal.pone.0162038.
66. Raban MZ, Dandona R, Kumar GA, Dandona L. Inequitable coverage of non-communicable diseases and injury interventions in India. *Natl Med J India*. 2010;23:267–73.
67. Iyer RS, Rekha M, Kumar TS, Sarma PS, Radhakrishnan K. Primary care doctors' management behavior with respect to epilepsy in Kerala, southern India. *Epilepsy Behav*. 2011;21:137–42.
68. Cowan J, Raja S, Naik A, Armstrong G. Knowledge and attitudes of doctors regarding the provision of mental health care in Doddaballapur Taluk, Bangalore Rural district, Karnataka. *Int J Ment Health Syst*. 2012;6:21.
69. D'Costa G, Nazareth I, Naik D, Vaidya R, Levy G, Patel V, et al. Harmful alcohol use in Goa, India, and its associations with violence: a study in primary care. *Alcohol Alcohol*. 2007;42:131–7.
70. Kermode M, Bowen K, Arole S, Pathare S, Jorm AF. Attitudes to people with mental disorders: a mental health literacy survey in a rural area of Maharashtra, India. *Soc Psychiatry Psychiatr Epidemiol* 2009;44:1087–96.
71. Lasalvia A, Zoppei S, Van Bortel T, Bonetto C, Cristofalo D, Wahlbeck K, et al. Global pattern of experienced and anticipated discrimination reported by people with major depressive disorder: a cross-sectional survey. *Lancet*. 2013;381:55–62.
72. World Health Organization, editor. *Pharmacological treatment of mental disorders in primary health care*. Geneva: World Health Organization; 2009.
73. Mitchell AJ, Vaze A, Rao S. Clinical diagnosis of depression in primary care: a meta-analysis. *Lancet*. 2009;374:609–19.
74. Mugisha J, Abdulmalik J, Hanlon C, Petersen I, Lund C, Upadhaya N, et al. Health systems context(s) for integrating mental health into primary health care in six Emerald countries: a situation analysis. *Int J Ment Health Syst*. 2017;11:7.
75. Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK and et al. *National Mental Health Survey of India, 2015-16. Mental Health Systems*. Bengaluru: National Institute of Mental Health and Neuro Sciences; 2016.
76. *Depression in adults: recognition and management [website]*. London: National Institute for Health and Care Excellence; 2016 (<https://www.nice.org.uk/guidance/cg90?unlid=434860718201731244558>, accessed 25 March 2017).
77. Collins PY, Insel TR, Chockalingam A, Daar A, Maddox YT. Grand challenges in global mental health: integration in research, policy, and practice. *PLoS Med*. 2013;10:e1001434.

78. Rahman A, Surkan PJ, Cayetano CE, Rwagatare P, Dickson KE. Grand Challenges: Integrating Maternal Mental Health into Maternal and Child Health Programmes. *PLOS Med.* 2013;10:e1001442.
79. Patel V, Belkin GS, Chockalingam A, Cooper J, Saxena S, Unützer J. Grand challenges: integrating mental health services into priority health care platforms. *PLoS Med.* 2013;10:e1001448.
80. Kaaya S, Eustache E, Lapidos-Salaiz I, Musisi S, Psaros C, Wissow L. Grand Challenges: Improving HIV Treatment Outcomes by Integrating Interventions for Co-Morbid Mental Illness. *PLOS Med.* 2013;10:e1001447.
81. Ngo VK, Rubinstein A, Ganju V, Kanellis P, Loza N, Rabadan-Diehl C, et al. Grand Challenges: Integrating Mental Health Care into the Non-Communicable Disease Agenda. *PLOS Med.* 2013;10:e1001443.
82. World Health Organization, World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians, editors. Integrating mental health into primary care: a global perspective. Geneva, London: World Health Organization, Wonca; 2008.
83. Isaac MK. District Mental Health Programme at Bellary. *Community Mental News – Issue No. 11 and 12.* Bangalore: Indian Council of Medical Research – Centre for Advanced Research on Community Mental Health; 1988.
84. Wang PS, Simon GE, Avorn J, Azocar F, Ludman EJ, McCulloch J, et al. Telephone screening, outreach, and care management for depressed workers and impact on clinical and work productivity outcomes: a randomized controlled trial. *JAMA.* 2007;298:1401–11.
85. Joyce S, Modini M, Christensen H, Mykletun A, Bryant R, Mitchell PB, et al. Workplace interventions for common mental disorders: a systematic meta-review. *Psychol Med.* 2016;46:683–97.
86. Evans-Lacko S, Koeser L, Knapp M, Longhitano C, Zohar J, Kuhn K. Evaluating the economic impact of screening and treatment for depression in the workplace. *Eur Neuropsychopharmacol J Eur Coll Neuropsychopharmacol.* 2016;26:1004–13.
87. Community Mental Health [website]. Chennai: Scarf India (<http://scarfindia.org/community-mental-health/>, accessed 25 March 2017).



COUNTRY OFFICE FOR

**World Health
Organization**

India

www.searo.who.int/india